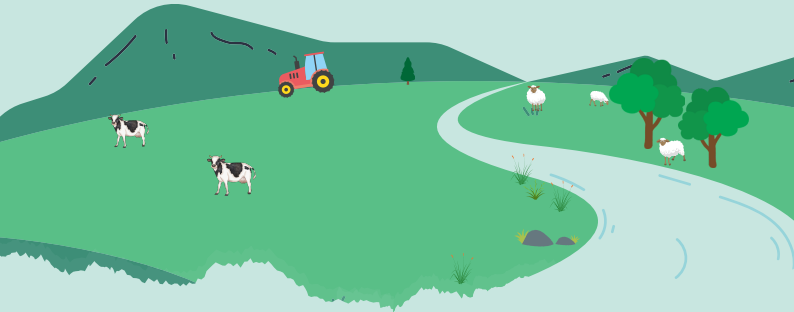




Slowing the Flow

The card game!



Flood and coastal resilience innovation programme

Part of the ECRIP
Flood and coastal innovation programmes



How to Play

Split the cards evenly between 2 - 3 players.

Take turns to select a **Co-benefit** category.

Compare Co-benefit category scores.

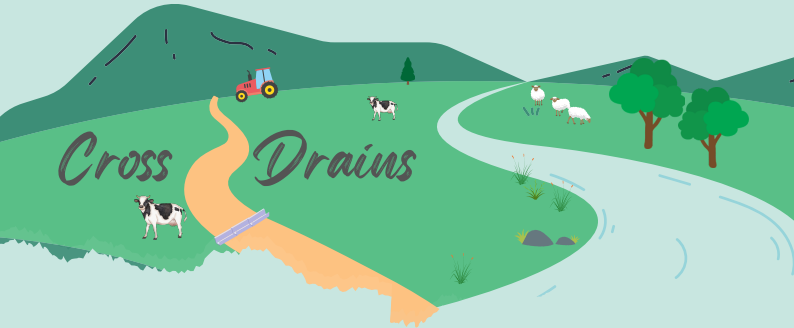
Highest Co-benefit score wins the opponent's card.

The game ends when one player has all the cards.

Select your top resilience options

You are tasked with building your community's resilience package. From the available cards for your catchment, select the actions that you feel would work best for your community. Order your cards in terms of your preference.

Remember to consider the level of flood risk mitigation and which co-benefits you would like for your community.



Drain systems along tracks to collect and divert overland run-off into sediment collection areas or vegetation which slows the flow and allows infiltration.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





Introduction of stone/rock into channels to help slow the flow of water during times of high rainfall.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





Vegetation planting along the riverbank to slow the rate of run-off and prevent soil and nutrient loss. Buffer strips are often fenced.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Bunds

Long and low mounds of earth which are constructed along the slope and hold back water to allow slow infiltration.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Leaky Dams

Woody barriers introduced into channels and ditches to slow the flow and hold back water in the channel.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





Ponds capture and store water both temporarily or permanently. They can be designed to slowly drain water back into the watercourse outside of high rainfall events.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Scrapes

Shallow scrapes can capture and store water seasonally. Designed to slowly drain water back into the watercourse outside of high rainfall events.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Tree Planting

Trees can be planted to help increase water infiltration, slow run-off and intercept rainfall, so that less water reaches the ground.

Flood Risk Mitigation

HIGH

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





Increases the area to store flood water, by allowing rivers to follow natural processes and connect with floodplains during times of high rainfall.

Flood Risk Mitigation

HIGH

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





Strategies can include, soil aeration, de-compaction and sub soiling (de-compacting the sub soil).

Flood Risk Mitigation

HIGH

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





The planting of non-cash crops over the winter months to prevent soil being left bare. This helps to improve soil structure and slow run-off and prevent soil loss.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation





Planting new hedgerows or restoring existing ones can help to intercept rainfall and overland runoff, and improve infiltration rates.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Emergency Plans

A plan to set out actions to be taken before, during and after a flood event, to help communities better prepare and recover more quickly from the impacts of flooding.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Flood Groups



By disseminating knowledge and helping to maintain existing flood resilience features, flood groups can help to increase community flood resilience.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Rain Gardens



Planted areas which can receive run-off in urban environments (e.g. from roofs and driveways) and absorb rainwater.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Community Sandbags



A community stock of sandbags can help to reduce damage to properties and important infrastructure caused by flooding.

Flood Risk Mitigation

MEDIUM

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



School-based education



Providing practical water quality, flood resilience and wider river and catchment-based learning for local schools.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Community Data Dashboard



A center or hub where the community can access information about their catchment including flood plans, emergency contact details and water quality data.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Riverfly Monitoring



Riverfly monitoring can be used to assess river health, using invertebrates as bio-indicators of water quality. Information can inform further water quality testing.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation



Carbon Storage Potential



Social, Health & Recreation



Water Quality Monitoring



Community owned water quality monitoring equipment can allow continuous monitoring of river flow, water levels, temperature, and conductivity of river water.

Flood Risk Mitigation

LOW

Creation Cost



Maintenance Costs



Level of Upkeep



Co-Benefits

Water Storage



Water Quality



Habitat Creation

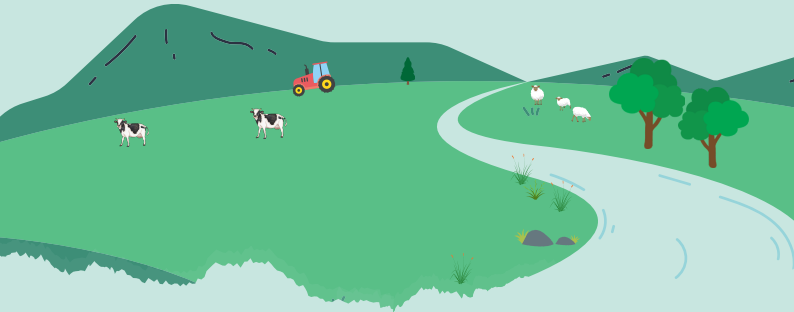


Carbon Storage Potential



Social, Health & Recreation





Card scorings data sources and definitions

Flood Risk Mitigation, Water Storage, Water Quality, Habitat Creation, Carbon Storage Potential, Social, Health & Recreation and definitions:

Wren, E, Barnes, M, Janes, M, Kitchen, A, Nutt, N, Patterson, C, Piggott, M, Robins, J, Ross, M, Simons, C, Taylor, M, Timbrell, S, Turner, D, Down, P (2022) Natural Flood Management Manual. CIRIA: Online.

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The Riverfly Partnership. <https://www.riverflies.org/>

Creation Cost, Maintenance Cost, Level of Upkeep:

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